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The Mineral Industry of Poland

UNITED STATES DEPARTMENT OF THE INTERIOR

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The Mineral Industry of Poland

By Walter G. Steblez[1]

In 1987, Poland's centrally planned economy continued to improve, showing modest growth in national income and a 3.3% growth in industrial output compared with those in 1986. Mining output, accounting for 7% of gross industrial production, remained largely at the output level of 1986. The production of Poland's iron and steel industry declined slightly compared with that of 1986; however, the output of nonferrous metals remained at about 1986 production levels. For the same period, the bituminous coal industry showed slight gains; on the other hand, metal fabricating, chemical, brown coal and lignite mining, and machine-building and toolmaking industries grew by 5.1%, 5.2%, 8.9%, and 8.2%, respectively. By yearend 1986 there were about 1.1 million workers employed in the fuels and energy, industrial minerals, and metallurgical industries, which represented about 25% of the industrial work force.[2] By yearend, Poland's mining and extracting industries increased their labor forces by 4,000 workers. The average monthly wage in the country's mining sector remained the highest in industry: almost twice that of the construction sector, which was second to mining in terms of wage scale. In 1987, the average wage increases for employees in the mining sector grew by 19% compared with those of 1986. However, during the same period, the cost of living for industrial workers rose by 26%.

The dispute and ensuing strikes that arose in 1986 between Poland's copper miners and the Government over the wage differential between coal and copper mining sectors was reportedly resolved in late 1987. The Government originally maintained the position that benefits granted to the coal industry were not applicable to the copper industry because the latter was not subsidized and did represent a special exception to Poland's economic reform policies. The reversal of the Government's decision placed the country's copper and other metallurgical industries on an equal footing in terms of wages with the coal industry. Other major events in the minerals industry included the discovery of gold in Lower Silesia, the exhaustion and partial decommissioning of the Konrad copper mine, and the continued construction of the Kosciusko power station to supply electricity to the Osiek sulfur mine.

Government Policies and Programs.—Government policies continued to be aimed at streamlining both production and consumption of minerals. To this end, the indexes of both productivity and consumption of minerals and basic materials showed improvement over those in 1986. A major streamlining effort was initiated in October 1987 to consolidate the mining, processing, and fabricating sectors of industry. The Ministry of Mining and Energy was abolished, and its functions and subdivisions subordinated under the Ministry of Industry.

PRODUCTION

Despite a number of proposed economic reforms, Poland's mineral industry remained centrally planned and state-owned and operated. The country's output of bituminous coal, copper, silver, and sulfur continued to be of world significance and, by European standards, Poland remained an important producer of cadmium, lead, salt, and zinc.

Table 1.—Poland: Production of mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity[2]	1983	1984	1985	1986[p]	1987[e]
METALS					
Aluminum metal, primary	44,400	45,900	47,000	47,500	[3]47,500
Cadmium metal, primary[e]	570	570	600	620	600
Copper:					
Mine output, Cu content, recoverable	402,300	431,000	[e]431,000	434,000	437,000
Metal:					
Smelter, including secondary[e]	362,000	375,000	390,000	400,000	410,000
Refined, including secondary	360,000	372,300	387,000	[e]388,000	[3]390,000
Gold:[e]					
Mine output, Au content, recoverable thousand troy ounces	1,040	1,110	1,110	1,110	1,110
Metal, smelter[4] troy ounces	5,800	5,800	5,800	5,800	5,800
Iron and steel:					
Iron ore and concentrate, gross weight thousand tons	10	11	11	9	[3]6
Metal:					
Pig iron do	9,716	9,981	9,807	10,574	[3]10,476
Ferroalloys:					
Blast furnace do	88	94	[e]83	[e]83	85
Electric furnace do	175	174	[e]177	[e]176	180
Steel:					
Crude do	16,236	16,533	16,126	17,144	[3]17,145
Semimanufactures:					
Rolled excluding pipe do	11,731	12,195	11,845	12,340	[3]12,412
Pipe do	995	1,010	992	1,027	[3]1,038
Lead:					
Mine output, Pb content, recoverable	47,000	52,800	[e]53,000	[e]53,500	54,000
Metal, smelter	81,400	83,400	87,300	88,300	[3]89,500
Nickel:[e]					
Mine output, Ni content, recoverable	2,100	2,100	2,000	2,000	2,000
Metal, smelter	2,100	2,100	2,000	1,900	1,900
Silver, mine output, Ag content, recoverable thousand troy ounces	21,798	23,920	26,717	26,653	[3]26,717
Zinc:					
Mine output, Zn content	189,000	190,700	187,000	185,000	184,000
Metal, refined, including secondary	170,300	176,000	180,000	179,000	[3]177,000
INDUSTRIAL MINERALS					
Barite	81,000	91,000	91,000	98,000	[3]59,300
Cement, hydraulic thousand tons	16,200	16,700	15,000	15,831	[3]16,100
Clays and clay products:					
Crude:					
Bentonite[e] do	70	70	75	75	75
Fire clay do	[r]1,124	1,037	980	1,076	1,100
Kaolin do	49	[e]50	48	49	49
Products[e] do	600	600	550	600	600
Feldspar[e] do	80	80	80	80	80
Gypsum and anhydrite, crude[5] do	927	1,167	973	1,107	1,110
Lime, hydrated and quicklime do	4,121	4,251	4,124	4,151	[3]4,261
Magnesite, crude	16,100	[r]20,600	19,200	20,900	[3]21,000
Nitrogen: N content of ammonia thousand tons	1,739	1,822	1,812	2,124	2,100
Salt:					
Rock do	[r]1,130	1,185	1,198	1,222	[3]1,234
Other do	3,196	3,526	3,660	4,197	[3]4,934
Sodium compounds, n.e.s.:					
Sodium carbonate (soda ash) do	825	918	939	963	970
Caustic soda (96% NaOH) do	408	[r]434	431	445	450
Stone: Dolomite do	2,996	3,227	3,025	3,333	[3]3,511
Sulfur:					
Native:					
Frasch do	4,526	4,485	4,326	4,437	4,400
Other than Frasch do	473	505	550	457	567
Total do	[r]4,999	4,990	4,876	4,894	[3]4,967
Byproduct:[e]					
From metallurgy do	170	170	170	170	170
From petroleum do	30	30	30	30	25
Total do	200	200	200	200	195
From gypsum[e] do	20	20	20	20	22
Total sulfur do	[r]5,219	5,210	5,096	5,114	5,184

See footnotes at end of table.

Table 1.—Poland: Production of mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity[2]		1983	1984	1985	1986[p]	1987[e]
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Bituminous	thousand tons	191,100	191,592	191,642	192,080	[3]193,010
Lignite and brown	do.	42,500	50,400	57,800	67,257	[3]73,200
Total	do.	233,600	241,992	249,442	259,337	[3]266,210
Coke:						
Coke oven	do.	17,100	16,200	16,000	16,400	[3]17,100
Gashouse[e]	do.	600	600	620	610	610
Total[e]	do.	17,700	16,800	16,620	17,008	17,710
Fuel briquets, all grades	do.	[r]1,500	719	1,010	1,309	1,380
Gas:						
Manufactured:						
Town gas	million cubic feet	9,641	9,041	7,875	6,427	6,500
Coke oven gas	do.	222,306	217,114	208,780	216,832	217,000
Natural, marketed	do.	193,230	214,430	225,024	205,708	[3]208,882
Natural gas liquids:[e]						
Natural gasoline	thousand 42-gallon barrels	80	80	75	80	80
Propane and butane	do.	53	53	50	60	60
Peat: Fuel and agricultural[e]		200,000	200,000	200,000	200,000	250,000
Petroleum:						
Crude:						
As reported	thousand tons	210	189	194	167	[3]149
Converted	thousand 42-gallon barrels	1,558	1,401	1,439	1,239	[3]1,105
Refinery products[4]	do.	95,501	95,529	98,469	100,086	[3]115,020

[e]Estimated. [p]Preliminary. [r]Revised.

[1]Table includes data available through Aug. 26, 1988.

[2]In addition to the commodities listed, antimony, cobalt, germanium, a variety of crude nonmetallic construction materials, and carbon black are also produced, but available information is inadequate to make reliable estimates of output levels. Poland may also produce alumina in small quantities, but details of such an operation, if it exists, are not available.

[3]Reported figure.

[4]Based on official Polish estimates.

[5]Includes building gypsum, as well as an estimate for gypsum used in production of cement.

[6]Includes virtually all major products; excludes some minor products as well as refinery fuel and losses.

TRADE

Poland's total trade returns for 1987 in current prices showed a slight deficit in soft currency trade accounting within the Council for Mutual Economic Assistance (CMEA) bloc. Planned exports to CMEA countries were exceeded by 1.1%, while planned imports increased by 2.9%. However, this deficit was viewed favorably compared with deficits in previous years. Total hard currency trade with market economy countries in current prices showed exports exceeding imports by more than 21% with a yearend account surplus of $1.24 billion. Overall, Poland's hard currency balance of payments deficit increased from $33.5 billion in 1986 to $37.6 billion in 1987. Reportedly, the decline in the dollar's value accounted for a $2.9 billion increase in this debt. Significantly, Poland's exports of bituminous coal to market economy countries in 1987 declined by 9.8% compared with those of 1986. The U.S.S.R. remained Poland's most important trade partner. As a member of CMEA, Poland continued to participate in the CMEA program to develop fuel and mineral resources on Soviet territory to assure long-term supplies of electricity, petroleum, natural gas, and metals. In 1987, the U.S.S.R. supplied Poland with 100.2 million barrels of petroleum, 18.5 million barrels of refinery products, 265.9 billion cubic feet of natural gas, 11.6 million tons of iron ore, 1.4 million tons of pig iron, and 83,000 tons of ferroalloys.

Also, during the same period, Soviet exports to Poland of chromite and manganese ore amounted to 149,000 and 342,000 tons, respectively. Soviet mineral imports from Poland included 9.6 million tons of bituminous coal and 1.2 million tons of bituminous coke.

Table 2.—Poland: Apparent exports of mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity	1985	1986[p]	Destinations, 1986	
			United States	Other (principal)
METALS				
Aluminum:				
Ore and concentrate	500	--	--	
Oxides and hydroxides	41	53	--	Thailand 20; United Kingdom 18; Norway 11.
Ash and residue containing aluminum	577	591	--	All to West Germany.
Metal including alloys:				
Scrap	199	3,668	--	West Germany 2,280; Finland 909; France 248.
Unwrought[3]	2,980	3,023	--	Czechoslovakia 2,702; West Germany 250; Italy 70.
Semimanufactures	777	[3]688	--	Finland 493; Italy 82; Austria 69.
Chromium:				
Ore and concentrate	--	2	--	All to Chile.
Oxides and hydroxides	[3]1,516	1,442	--	Finland 441; Sweden 431; Yugoslavia 145.
Cobalt: Metal including alloys, all forms	2	--		
Columbium and tantalum: Metal including alloys, all forms, tantalum	6	--		
Copper:				
Ore and concentrate	80,112	39,990	--	Canada 19,631; West Germany 14,949; Finland 5,410.
Matte and speiss including cement copper	20	22	--	All to Greece.
Sulfate	1,805	2,798	--	West Germany 1,605; Netherlands 873; Yugoslavia 320.
Metal including alloys:				
Scrap	698	757	--	West Germany 462; United Kingdom 107; France 99.
Unwrought[3]	181,948	169,431	--	West Germany 90,759; United Kingdom 36,544; Belgium-Luxembourg 12,388.
Semimanufactures[2]	62,354	73,149	55	Czechoslovakia 19,795; U.S.S.R. 12,621; West Germany 8,185.
Gold: Metal including alloys, unwrought and partly wrought value, thousands	$783	$2	--	All to Netherlands.
Iron and steel: Metal:				
Scrap[3]	79,993	73,883	--	Yugoslavia 52,338; Switzerland 7,862; Netherlands 6,543.
Pig iron, cast iron, related materials	1,652	100	--	West Germany 47; Yugoslavia 25; Denmark 19.
Ferroalloys:				
Ferrochromium	37	244	--	Belgium-Luxembourg 220; West Germany 24.
Ferrosilicon	657	721	[4]	All to West Germany.
Silicon metal	1	--	--	
Unspecified	1,393	1,153	--	Yugoslavia 500; Austria 378; West Germany 250.
Steel, primary forms	101,000	125,000	216	Yugoslavia 71,896; United Kingdom 27,064; Belgium-Luxembourg 24,685.
Semimanufactures:				
Bars, rods, angles, shapes, sections thousand tons	1,389	1,460	16	U.S.S.R. 845; West Germany 122; Czechoslovakia 91.
Universals, plates, sheets do	356	329	19	U.S.S.R. 56; West Germany 28; United Kingdom 28.
Hoop and strip do	114	98	--	Yugoslavia 28; United Kingdom 6; unspecified 57.
Rails and accessories do	93	156	--	NA.
Wire do	42	29	[5]	West Germany 7; Yugoslavia 3; unspecified 14.
Tubes, pipes, fittings do	34	31	4	East Germany 20; West Germany 6.
Castings and forgings, rough do	4	5	--	Mainly to Hungary.
Lead:				
Oxides	18	--		
Ash and residue containing lead	1,342	54	--	All to United Kingdom.
Metal including alloys:				
Scrap	40	147	--	Sweden 123; West Germany 24.
Unwrought	--	98	--	All to Sweden.
Molybdenum: Metal including alloys, all forms	--	2	--	All to Belgium-Luxembourg.

See footnotes at end of table.

Table 2.—Poland: Apparent exports of mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1985	1986[p]	Destinations, 1986	
			United States	Other (principal)
METALS —Continued				
Nickel:				
Oxides and hydroxides	1	--		
Metal including alloys:				
Unwrought	--	33	--	All to Netherlands.
Semimanufactures	--	1	--	All to Yugoslavia.
Platinum-group metals: Metals including alloys, unwrought and partly wrought value, thousands	$535	$20	--	Belgium-Luxembourg $15; Netherlands $5.
Silver:				
Ore and concentrate do.	[r]$791	$1,085	--	All to Canada.
Waste and sweepings do.	$441	[r]$1,128	--	West Germany $747; Switzerland $381.
Metal including alloys, unwrought and partly wrought[2] thousand troy ounces	17,651	12,989	965	Switzerland 5,337; Belgium-Luxembourg 2,218; West Germany 1,800.
Tin: Ash and residue containing tin	--	465	--	All to United Kingdom.
Titanium: Oxides	293	195	--	Yugoslavia 175; Italy 20.
Zinc:				
Ore and concentrate	[3]17,718	--		
Oxides	906	627	--	West Germany 612; Sweden 15.
Ash and residue containing zinc	--	202	--	All to Belgium-Luxembourg.
Metal including alloys:				
Scrap	146	383	--	All to West Germany.
Unwrought[2]	28,050	22,562	1,183	Hungary 12,880; West Germany 2,000; United Kingdom 2,000.
Semimanufactures[2]	3,603	2,994	39	Czechoslovakia 1,202; U.S.S.R. 909; West Germany 440.
Other:				
Ores and concentrates	6	--		
Ashes and residues	2,888	--		
Base metals including alloys, all forms	1,682	1,482	--	Czechoslovakia 1,477; West Germany 5.
INDUSTRIAL MINERALS				
Abrasives, n.e.s.:				
Natural: Corundum, emery, pumice, etc	155	271	--	Yugoslavia 222; Pakistan 21; West Germany 18.
Artificial:				
Corundum	5,864	3,155	--	West Germany 1,926; Yugoslavia 759; Italy 208.
Silicon carbide	416	1,049	--	France 550; West Germany 489; Belgium-Luxembourg 10.
Grinding and polishing wheels and stones	289	463	(4)	Italy 300; Yugoslavia 106; United Kingdom 25.
Cement[2] thousand tons	1,264	952	--	U.S.S.R. 399; Sweden 212; West Germany 107.
Clays, crude:				
Bentonite	--	24	--	All to Italy.
Chamotte earth	[3]12,636	2,181	--	Hungary 2,036; West Germany 145.
Fire clay	[3]11,476	1,008	--	All to Yugoslavia.
Kaolin	5	--	--	
Unspecified	125	20,713	--	Hungary 13,546; Yugoslavia 5,425; Austria 1,163.
Diamond:				
Gem, not set or strung value, thousands	$380	--		
Industrial stones do.	$167	$46	--	Belgium-Luxembourg $38; West Germany $7; Switzerland $1.
Diatomite and other infusorial earth	367	--		
Fertilizer materials:				
Crude, n.e.s	--	23	--	All to West Germany.
Manufactured:				
Ammonia[2]	70,775	141,939	--	Sweden 63,195; West Germany 42,347; Spain 16,928.
Nitrogenous[2]	243,032	193,039	--	West Germany 43,387; France 40,000; Denmark 21,000.
Phosphatic	4,176	[3]30,000	--	Czechoslovakia 22,000; West Germany 6,000; Netherlands 2,000.
Unspecified and mixed	1,307	32,104	--	Denmark 19,784; West Germany 9,732; Italy 809.
Graphite, natural	25	--		
Gypsum and plaster	[3]50,596	6,623	--	Finland 4,070; Norway 2,548; Sweden 5.
Kyanite and related materials	--	550	--	West Germany 325; Italy 125; Spain 100.
Lime[2]	51,155	48,706	--	West Germany 48,703.

See footnotes at end of table.

Table 2.—Poland: Apparent exports of mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1985	1986[p]	Destinations, 1986	
			United States	Other (principal)
INDUSTRIAL MINERALS —Continued				
Magnesium compounds	6	--		
Nitrates, crude	--	20	--	All to Finland.
Pigments, mineral: Iron oxides and hydroxides, processed	--	20	--	All to Yugoslavia.
Precious and semiprecious stones other than diamond:				
Natural value, thousands	$2	$6	$6	
Synthetic do.	$227	$21	--	All to Japan.
Pyrite, unroasted	--	2,566	--	All to Jordan.
Salt and brine[2]	380,110	327,246	--	Finland 145,723; Sweden 107,690; Hungary 68,758.
Sodium compounds, n.e.s.:				
Carbonate, manufactured[2]	256,289	252,642	--	China 111,909; U.S.S.R. 45,483; Czechoslovakia 16,425.
Sulfate, manufactured	1,436	334	--	Canada 234; Uruguay 100.
Stone, sand and gravel:				
Dimension stone:				
Crude and partly worked[2]	13,207	13,972	--	West Germany 10,591; Sweden 2,082; Denmark 977.
Worked	9,610	12,944	--	West Germany 9,370; Denmark 3,016; Sweden 490.
Dolomite, chiefly refractory-grade[2]	3,429	--		
Gravel and crushed rock	76,445	82,040	--	All to West Germany.
Limestone other than dimension	4,705	1,955	--	Do.
Quartz and quartzite	1,382	25	--	All to Italy.
Sand other than metal-bearing	118,475	154,928	--	West Germany 154,886; United Kingdom 36; Jordan 6.
Sulfur:				
Elemental:				
Crude including native and by-product[2] thousand tons	3,906	3,823	--	U.S.S.R. 871; Czechoslovakia 487; Brazil 396.
Colloidal, precipitated, sublimed	11,770	35,799	--	Jordan 25,710; Sweden 9,836; Yugoslavia 243.
Dioxide	3,404	3,773	--	All to West Germany.
Sulfuric acid[2]	108,091	97,975	--	All to U.S.S.R.
Other:				
Crude	16,192	6,887	--	West Germany 6,714; Austria 172; Denmark 1.
Slag and dross, not metal-bearing	87,458	14,310[e]	--	West Germany 14,236; France 74.
MINERAL FUELS AND RELATED MATERIALS				
Carbon black	12	--		
Coal:				
Anthracite and bituminous[2] thousand tons	36,156	34,318	--	U.S.S.R. 11,633; Finland 2,360; West Germany 2,238.
Briquets of anthracite and bituminous coal do.	2	[3]65	--	Hungary 60; Switzerland 5.
Lignite including briquets do.	[3]201	1	--	All to West Germany.
Coke and semicoke[2] do.	1,639	1,545	--	U.S.S.R. 721; East Germany 169; Austria 146.
Peat including briquets and litter[2]	5,173	4,987	--	Austria 3,596, Italy 1,057; Egypt 283.
Petroleum:				
Crude thousand 42-gallon barrels	942	3,328	--	United Kingdom 3,133; Italy 195.
Refinery products:				
Liquefied petroleum gas do.	115	157	--	All to West Germany.
Gasoline do.	174	577	--	Sweden 400; West Germany 168; Denmark 6.
Mineral jelly and wax do.	37	37	--	Netherlands 19; Austria 14; Finland 3.
Kerosene and jet fuel do.	21	19	--	All to Hungary.
Distillate fuel oil do.	1,161	436	--	West Germany 246; Norway 127; Sweden 25.
Lubricants do.	329	219	--	Austria 83; Sweden 44; West Germany 39.
Residual fuel oil do.	539	317	--	Sweden 213; West Germany 65; Austria 27.
Bitumen and other residues do.	2	7	--	Austria 5; West Germany 2.
Bituminous mixtures do.	(4)	(4)	--	All to Finland.
Unspecified do.	1,152	1,562	NA	NA.

[p]Preliminary. NA Not available.

[1]Table prepared by Jozef Plachy. Owing to a lack of official trade data published by Poland, this table should not be taken as a complete presentation of this country's mineral trade. Unless otherwise specified, these data have been compiled from United Nations information and data published by the trading partner countries.

[2]Official Trade Statistics of Poland.

[3]Less than 1/2 unit.

[4]May include other precious metals.

Table 3.—Poland: Apparent imports of mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity	1985	1986[p]	Sources, 1986: United States	Sources, 1986: Other (principal)
METALS				
Aluminum:				
Ore and concentrate[2]	37,862	49,311	--	Hungary 20,609; Albania 11,903; Australia 8,445.
Oxides and hydroxides[2]	206,591	225,213	6,856	France 131,641; Hungary 75,678; Switzerland 17,897.
Metal including alloys:				
Scrap	285	2	--	All from West Germany.
Unwrought[2]	86,391	88,207	--	U.S.S.R. 38,759; West Germany 20,193; Romania 12,654.
Semimanufactures[2]	9,232	11,697	(3)	U.S.S.R. 6,306; Czechoslovakia 2,121; West Germany 1,544.
Antimony: Metal including alloys, all forms	34	--		
Chromium:				
Ore and concentrate[2]	151,093	145,790	--	U.S.S.R. 136,196; Albania 5,143; Turkey 4,451.
Oxides and hydroxides	212	320	--	All from United Kingdom.
Metal including alloys, all forms	--	1	--	All from West Germany.
Cobalt: Metal including alloys, all forms	21	11	--	Do.
Columbium and tantalum: Metal including alloys, all forms:				
Columbium (niobium)	(3)	--		
Tantalum	--	(3)	(3)	
Copper:				
Ore and concentrate	2	--		
Oxides and hydroxides	107	30	--	All from United Kingdom.
Metal including alloys:				
Scrap	122	765	--	Sweden 730; West Germany 20; Netherlands 15.
Unwrought[2]	19,991	18,211	--	All from United Kingdom.
Semimanufactures[2]	1,212	917	--	U.S.S.R. 318; West Germany 273; France 137.
Gold: Metal including alloys, unwrought and partly wrought, value, thousands	$682	$497	--	West Germany $458; Netherlands $22; Italy $17.
Iron and steel:				
Iron ore and concentrate excluding roasted pyrite[2], thousand tons	16,973	16,640	--	U.S.S.R. 14,109; Brazil 206; India 143.
Metal:				
Scrap, do.	5	5	--	U.S.S.R. 3.
Pig iron, cast iron, related materials, do.	1,330	1,391	--	NA.
Ferroalloys:				
Ferrochromium	1,804	1,315	--	Yugoslavia 1,193; West Germany 102; Netherlands 20.
Ferromanganese	24,000	27,000	--	France 3,000; Norway 500; unspecified 23,500.
Ferromolybdenum	64	40	--	All from West Germany.
Silicon metal	4,918	4,107	--	All from Yugoslavia.
Unspecified	25,132	27,645	--	NA.
Steel, primary forms	13,000	17,240	--	Yugoslavia 14,555; West Germany 2,238; Hungary 335.
Semimanufactures:				
Bars, rods, angles, shapes, sections, thousand tons	325	272	--	Czechoslovakia 184; Yugoslavia 22; Hungary 17.
Universals, plates, sheets, do.	634	637	41	Czechoslovakia 141; U.S.S.R. 32; unspecified 322.
Hoop and strip, do.	60	61	(3)	West Germany 11; Yugoslavia 7; unspecified 39
Rails and accessories, do.	17	19	--	NA.
Wire, do.	49	50		West Germany 4; Italy 4; unspecified 33.
Tubes, pipes, fittings, do.	243	261	(3)	Romania 108; West Germany 52; East Germany 17.
Castings and forgings, rough, do.	13	11	--	Hungary 3; unspecified 7.
Lead:				
Ore and concentrate[2]	300	--		
Oxides	280	65	--	All from Italy.
Metal including alloys:				
Unwrought[2]	6,195	3,041	--	All from United Kingdom.
Semimanufactures	24	134	--	United Kingdom 86; Belgium-Luxembourg 48.

See footnotes at end of table.

Table 3.—Poland: Apparent imports of mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1985	1986[p]	Sources, 1986	
			United States	Other (principal)
METALS —Continued				
Magnesium: Metal including alloys, unwrought[2]	1,454	649	--	France 451; Belgium-Luxembourg 197.
Manganese:				
Ore and concentrate, metallurgical-grade[3]	617,977	670,843	--	U.S.S.R. 569,511; Italy 101,330.
Oxides	--	440	--	Japan 280; Greece 160.
Molybdenum:				
Ore and concentrate	39	--		
Oxides and hydroxides	--	1	--	All from West Germany.
Metal including alloys, all forms	1	--		
Nickel:				
Matte and speiss, Ni content	150	--		
Oxides and hydroxides	1	--		
Metal including alloys:				
Unwrought	--	1	--	All from United Kingdom.
Semimanufactures	66	98	14	West Germany 69; United Kingdom 6.
Platinum-group metals: Metals including alloys, unwrought and partly wrought value, thousands	$1,635	$5,881	$1	Switzerland $4,781; West Germany $1,042; United Kingdom $42.
Rare-earth metals including alloys, all forms	--	1	--	All from France.
Silver: Metal including alloys, unwrought and partly wrought value, thousands	$406	$300	--	West Germany $231; France $37; United Kingdom $16.
Tin:				
Oxides	9	--		
Metal including alloys:				
Unwrought[2]	3,029	3,625	--	United Kingdom 3,435; France 129; Austria 40.
Semimanufactures	1	--		
Titanium:				
Ore and concentrate	2,924	1,872	--	All from Netherlands.
Oxides	1,101	840	--	United Kingdom 527; West Germany 273; Japan 40.
Metal including alloys, all forms	12	5	--	Japan 3; United Kingdom 2.
Tungsten: Metal including alloys, all forms	3	3	--	All from Netherlands.
Zinc:				
Ore and concentrate	4	--		
Oxides	2	4	--	All from United Kingdom.
Blue powder	--	9	--	All from Denmark.
Metal including alloys:				
Unwrought[2]	5,254	2,226	--	All from U.S.S.R.
Semimanufactures	13	3	--	All from West Germany.
Zirconium: Ore and concentrate	680	2,542	--	Do.
Other:				
Ores and concentrates	2,150	89,898	--	Norway 87,434; Australia 1,784; Austria 90.
Oxides and hydroxides	74	66	--	United Kingdom 39; Netherlands 15; West Germany 13.
Base metals including alloys, all forms[2]	15,423	11,172	--	Romania 6,132; U.S.S.R. 5,015; Austria 17.
INDUSTRIAL MINERALS				
Abrasives, n.e.s.:				
Natural: Corundum, emery, pumice, etc	760	322	30	Italy 216; Japan 70.
Artificial:				
Corundum	2,701	3,254	20	Yugoslavia 1,896; Hungary 1,077; Japan 228.
Silicon carbide	90	5	--	All from Italy.
Dust and powder of precious and semi-precious stones including diamond value, thousands	$380	$68	--	All from United Kingdom.
Grinding and polishing wheels and stones	1,410	1,055	31	Austria 365; Yugoslavia 213; West Germany 210.
Asbestos, crude[2]	81,690	81,026	--	U.S.S.R. 77,005; Canada 1,998; United Kingdom 818.
Barite and witherite	30	--		
Boron materials:				
Crude natural borates	16,293	--		
Oxides and acids	7,776	--		

See footnotes at end of table.

Table 3.—Poland: Apparent imports of mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1985	1986[p]	Sources, 1986	
			United States	Other (principal)
INDUSTRIAL MINERALS —Continued				
Cement	32,002	37,952	--	East Germany 20,114; U.S.S.R. 17,800.
Chalk	409	22	--	France 20; Netherlands 2.
Clays, crude:				
Bentonite	5,329	5,211	20	Hungary 5,191.
Chamotte earth[3]	6,779	--		
Fire clay	107	40	--	All from Yugoslavia.
Kaolin[3]	145,961	160,181	--	Czechoslovakia 73,302; United Kingdom 32,744; U.S.S.R. 20,622.
Unspecified	--	222	20	Italy 109; West Germany 84.
Cryolite and chiolite	--	1	--	All from West Germany.
Diamond:				
Gem, not set or strung: value, thousands	$250	$30	--	All from United Kingdom.
Industrial stones do.	$2,149	$1,466	--	Belgium-Luxembourg $877; Switzerland $300; West Germany $270.
Diatomite and other infusorial earth	2,175	1,601	1,495	Denmark 60; France 46.
Feldspar, fluorspar, related materials	1,837	7,969	--	Norway 6,259; Finland 1,709.
Fertilizer materials:				
Crude, n.e.s	--	2	--	All from Italy.
Manufactured:				
Ammonia[3] thousand tons	24	8	--	All from U.S.S.R.
Nitrogenous[3] do.	69	29	--	Romania 11; Switzerland 9.
Phosphatic do.	--	10	10	
Potassic[3] do.	2,337	2,373	--	U.S.S.R. 1,671; East Germany 672; Austria 30.
Unspecified and mixed do.	(4)	(4)	--	Mainly from Belgium-Luxembourg.
Graphite, natural[3]	6,082	3,925	49	Austria 2,008; Czechoslovakia 1,427; North Korea 195.
Gypsum and plaster	2,807	1,135	--	All from West Germany.
Kyanite and related materials	20	106	--	All from United Kingdom.
Lime	[5]12,616	9	--	All from France.
Magnesium compounds[3]	262,398	211,464	--	North Korea 92,652; Czechoslovakia 68,785; Brazil 23,172.
Mica:				
Crude including splittings and waste[3]	1,241	--		
Worked including agglomerated splittings	27	11	--	Austria 7; Switzerland 2; France 1.
Phosphates, crude[3] thousand tons	3,261	2,970	--	Morocco 1,237; U.S.S.R. 536; Jordan 419.
Phosphorus, elemental	15,337	13,716	--	All from U.S.S.R.
Pigments, mineral:				
Natural, crude	21	1	--	All from West Germany.
Iron oxides and hydroxides, processed	1,050	4	--	All from Belgium-Luxembourg.
Precious and semiprecious stones other than diamond:				
Natural value, thousands	$16	$11	--	West Germany $9; Austria $1; Hong Kong $1.
Synthetic do.	$110	$89	--	Austria $30; Switzerland $26; West Germany $22.
Salt and brine	1	--		
Stone, sand and gravel:				
Dimension stone:				
Crude and partly worked[3]	3,487	15,700	--	Bulgaria 7,601; Czechoslovakia 6,256; Albania 1,744.
Worked	141	84	--	Italy 71; France 10; United Kingdom 2.
Dolomite, chiefly refractory-grade	[5]11,972	41	--	West Germany 26; Austria 15.
Gravel and crushed rock[3]	10,634	11,630	--	Norway 7,192; Czechoslovakia 2,550; Finland 1,888.
Limestone other than dimension	250	--		
Quartz and quartzite	3,120	3,414	--	West Germany 2,921; Sweden 342; Yugoslavia 91.
Sand other than metal-bearing	176	--		
Talc, steatite, soapstone, pyrophyllite[3]	20,944	23,154	--	North Korea 9,417; Czechoslovakia 6,555; China 2,622.
Vermiculite, perlite, chlorite	5	--		
Other:				
Crude	13,868	16,077	--	Hungary 14,816; West Germany 1,156; United Kingdom 75.
Slag and dross, not metal-bearing	--	2,957	--	West Germany 2,956; Yugoslavia 1.
MINERAL FUELS AND RELATED MATERIALS				
Asphalt and bitumen, natural	26	--		
Carbon black	[5]29,982	6,980	50	Sweden 5,804; West Germany 1,791; Netherlands 1,009.

See footnotes at end of table.

Table 3.—Poland: Apparent imports of mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity	1985	1986[p]	Sources, 1986	
			United States	Other (principal)
MINERAL FUELS AND RELATED MATERIALS —Continued				
Coal:[3]				
Anthracite thousand tons	--	22	--	All from U.S.S.R.
Bituminous do.	1,060	1,150	--	U.S.S.R. 836; East Germany 314.
Coke and semicoke do.	85	73	--	United Kingdom 67; Belgium-Luxembourg 3; Sweden 3.
Gas, natural: Gaseous:[3] million cubic feet	208,285	251,969	--	All from U.S.S.R.
Peat including briquets and litter	30	150	--	All from Ireland.
Petroleum:[3]				
Crude thousand 42-gallon barrels	100,778	108,509	--	U.S.S.R. 100,622; Iran 1,946; Iraq 1,006.
Refinery products do.	26,174	27,432	101	U.S.S.R. 16,581; Romania 708; Albania 399.

[p]Preliminary. NA Not available.

[1]Table prepared by Josef Plachy. Owing to a lack of official trade data published by Poland, this table should not be taken as a complete presentation of this country's mineral trade. Unless otherwise specified, these data have been compiled from United Nations information and data published by the trading partner countries.

[2]Official Trade Statistics of Poland.

[3]Less than 1/2 unit.

COMMODITY REVIEW

METALS

Aluminum.—With no domestic bauxite resources, Poland's aluminum industry relied entirely on imports of raw materials for processing and fabricating. Production of aluminum remained at the same level as that in 1986. In 1987, Poland signed a cooperative agreement with the U.S.S.R. that enabled the Konin aluminum mill in western Poland to ship primary aluminum alloys to the U.S.S.R. in exchange for rolling mill blocks for processing.

Copper.—The production of ore and electrolytic copper, in absolute terms, grew slightly in 1987 compared with that of 1986. The Kombinat Gorniczno-Hutniczy Miedi (KGHM), or the Copper Mining and Smelting Industrial Group managed the country's copper mining and processing industries in the Legnica-Glogow area in the southwestern part of Poland. The chief event in the industry during the year was the partial closure of the Konrad copper mine, near Iwiny, owing to the near depletion of reserves at the site. The Konrad Mine, the oldest copper mine in Poland, had been sustaining operational losses for several years, and the cessation of most operations entailed the elimination of about 2,000 jobs. Exploitation of accessible copper reserves was to continue for about 6 years. The mining of anhydrite, associated with the copper ore at Konrad, was begun during the year.

Production was to reach 10,000 tons by yearend, and potential future production was set at 500,000 tons per year. A collapse at the nearby Lubin Mine, caused by a strong earth tremor in mid-June, resulted in three serious injuries and four fatalities.

Gold.—In August, the State Institute of Geology reported the discovery of gold in the Sudety Mountains. Chrysoprase, emeralds, garnets, and rubies were also discovered in the region.

Iron and Steel.—Poland announced plans to install two 2-strand continuous slab casters with a combined capacity of 3 million tons per year at the Huta Katowice steelworks. Krupp AG of the Federal Republic of Germany would supply the casters and the deal would be financed by Polish steel deliveries to developing countries. The arrangement, however, was subject to further negotiations. Other developments included the announcement of yearend closure of the Huta Pokoj steelworks at Nowy Bytom. The steelworks had been operating at a loss marked by quality problems and environmental difficulties.

Lead and Zinc.—The production of lead

and zinc ore continued to decline slightly owing to limited investments and declining ore grades. A new line for continuous zinc casting was put into operation at the Boleslaw mining-metallurgical plant at Bukowno. The computer controlled plant with a 12-ton-per-hour-production capacity was designed and produced domestically.

INDUSTRIAL MINERALS

Salt and sulfur remained Poland's most important industrial minerals both in terms of reserves and export earnings. The country was also a producer of barite, dolomite, gypsum, limestone, and magnesite.

Sulfur extracted by open pit mining at the Machow Mine amounted to about 12% of total output in 1987. The balance of the country's sulfur production was done by the modified Frasch underground melting process, mainly at the Jeziorko, Grzybow, and Baznia Mines. In 1987, the construction of the Kosciusko power station was begun to supply power for sulfur melting at the Osiek Mine. Eventual output at the Osiek Mine was planned at 1.3 million tons of sulfur per year.

MINERAL FUELS

Coal.—Poland remained the fourth largest coal producer in the world. Coal met about 80% of Poland's energy requirements and provided one-fifth of the country's hard currency earnings. Coal production has been growing slowly and some concern was raised that the target for 1990 may not be met. Poland sought to diversify its energy base by increasing gas supplies from the Soviet Union and by the construction of two nuclear powerplants. In 1987, the Kopernik coal mining and processing complex in Lower Silesia was under development. By yearend, the complex's main shaft reached a depth of 500 feet and required a further 460 feet for completion. Reportedly, the development of the Kopernik Mine was the largest mining investment project in the area in the post-war period.

Natural Gas and Petroleum.—In 1987, geologists discovered deposits containing 3.7 million barrels of petroleum and 194 billion cubic feet of natural gas. A new oil well was put into operation in Gorzow Province, and three wells were put into operation at Koszalin, near Karlino. Geologists also indicated probable deposits at Szczecinek, Swizyna, and Karlino.

[1]Foreign mineral specialist, Division of International Minerals.

[2]Rocznik Statystyczny (Statistical Handbook), 1987, pp. 150-163.

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